National Digital Forecast Database (NDFD)
Experimental Graphic Forecast Displays
Product Description Document (PDD)
3/15/05

Part I - Mission Connection

a. Description of Product – NOAA's National Weather Service National Digital Forecast Database (NDFD) Experimental Graphic Forecast Displays (http://weather.gov/forecasts/graphical/sectors/index.php) are web-based presentations of digital forecast data originating from local Weather Forecast Office (WFO) digital databases and the NDFD server. The data are displayed in a mosaic form on national and regional scales. Local scale products are not covered under this Product Description Document (PDD). For more information on the NDFD, please refer to the NDFD Information web site at the following URL: http://www.nws.noaa.gov/ndfd/index.htm.

Experimental graphic displays for the contiguous United States (CONUS) include the following nine forecast elements:

-Sky Cover
-Quantitative Precipitation Forecasts /QPF/
-Wind Direction
-Wind Speed
-Snow Amount
-Significant Wave Height

Experimental graphic displays for Puerto Rico, Hawaii, and Guam include the following 12 forecast elements:

-Maximum Temperature
-Minimum Temperature
-Probability of Precipitation /PoP12/
-Surface Temperature
-Dew Point
-Weather
-Sky Cover
-Quantitative Precipitation Forecasts /QPF/ (except Hawaii and Guam)
-Snow Amount (except Puerto Rico and Guam)
-Significant Wave Height
-Wind Direction
-Wind Speed

Depending upon the element, forecast time projections will extend out to a maximum of 168 hours. Additional data fields having greater temporal and spatial resolution will be added as the NDFD matures.

b. Purpose - NDFD is a high resolution data set in non-displayable form. In support of the mission described in the ***National Weather Service Strategic Plan for FY2003 - FY 2008***, the NDFD is a "...national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community." Graphic displays of these data are primarily required by NWS forecasters needing to view a composite of the collective forecast efforts, as well as emergency managers who require rapid visual forecast information to help make critical decisions. Once these graphic displays are created, they must also be made available to the general public. The NDFD graphic forecasts fulfill additional NWS objectives for improving the accessibility and availability of weather information to the public. Future graphic mosaic displays will be developed in accordance with growing user needs.

c. Intended Audience - The NWS graphic forecasts are intended for government emergency managers, academia, businesses, and anyone in the general public who needs to view the content within the NWS digital forecast databases. While the data are available in digital form, many NWS customers cannot interpret or use these digital data unaided. For those who cannot, a graphic presentation is the most efficient means to communicate the large amount of information originating from NWS WFOs.

d. Presentation Method - The data are presented as web-based graphic images. The NDFD National mosaic provides weather forecast information for the entire contiguous United States (CONUS) and U.S. territories outside the contiguous United States (OCONUS) including Hawaii, Guam, and Puerto Rico/Virgin Islands. In the future, geographical data sectors will also be available for Alaska.

The graphic forecast displays follow a standard format prescribed by the NWS to best meet the needs of its customers and partners. When selected by the user (via a mouse click on the national mosaic), regional mosaics provide images for 16 predefined and slightly overlapping geographic sectors throughout the CONUS, as depicted at the following URL: http://www.weather.gov/ndfd/coverage.htm. Three OCONUS sectors are also available for Hawaii, Guam, and Puerto Rico/Virgin Islands. For the CONUS, an additional mouse click will drill down to graphics for each state. One final mouse click will zoom to individual WFO County Warning and Forecast areas. Most OCONUS sectors also have limited zoom capability. For each geographic level of display, the user may select the weather element and time period to display, and create animations of the images.

e. Feedback Mechanism - We are always seeking to improve our products based on user feedback. Please submit your comments on these experimental elements by completing our brief experimental product survey. Comments may also be submitted by clicking on the "Survey/Comments" links on the experimental product web pages. For general questions regarding the National Digital Forecast Database, please email: ***nws.ndfd@noaa.gov***

Part II - Technical Description

a. Format & Science Basis - The NDFD forecast element definitions and technical information (e.g., temporal and spatial resolutions of the graphics, and geographic coverage) may be found on the NDFD technical page at the following URL:
http://www.nws.noaa.gov/ndfd/technical.htm

b. Product Availability - The NDFD web-based graphic mosaics are continuously by accessing the main National Weather Service homepage, www.weather.gov, and clicking on the "Graphical Forecasts" tab, or directly at the following URL:
http://weather.gov/forecasts/graphical/sectors/index.php

Forecast grids are revised at the local WFOs on an event-driven basis. The revised grids are uploaded to the NDFD server and new graphic mosaics are generated at the top of each hour. At a minimum, revised mosaics will be refreshed daily no later than 1800 Coordinated Universal Time (UTC).

c. Other Details -

(1) National Weather Service Instruction (NWSI) 10-506, Digital Data Products/Services Specification provides detailed information on both experimental and operational elements in NDFD.
(2) Experimental graphical elements are differentiated from NWS operational elements by the "experimental" label found on the individual graphics.
(3) Experimental graphical elements are evaluated regularly on timeliness, completeness, spatial consistency, accuracy, and other subjective criteria. When they meet the guidelines established by the NWS, they are declared "operational" and are no longer covered by this PDD for experimental elements.
(4) On June 15, 2005, the following two new experimental graphic elements will become available for both CONUS and OCONUS locations: Apparent Temperature (i.e., Heat Index and Wind Chill values) and Relative Humidity.
(5) On June 15, 2005, the following six experimental graphic elements for Hawaii and Puerto Rico will be upgraded to operational status: Maximum Temperature, Minimum Temperature, Surface Temperature, Dew Point, 12-Hour Probability of Precipitation /PoP12/, and Weather.